

Claims

What is claimed is:

- [c1] A space plane, comprising:
 - a main body;
 - an aerospike engine attached to the main body; and
 - a bell-shaped nozzle primary thrust engine attached to the main body.
- [c2] The space plane of claim 1, wherein the aerospike engine includes a tapered body and a slanted reaction plane on the tapered body, further comprising means for increasing propulsive pressure on the reaction plane.
- [c3] The space plane of claim 1, wherein the aerospike engine further comprises means for inhibiting boundary layer separation.
- [c4] A method of operating a space vehicle having a tapered engine body which has a slanted reaction plane, comprising:
 - firing the engine;
 - extending a length of the reaction plane at a predetermined time; and
 - removing decelerated boundary layer fluid from a boundary layer while the reaction plane is extended.
- [c5] The method of claim 4, wherein the decelerated boundary layer fluid is removed by using slits in an extended portion of the reaction plane.
- [c6] The method of claim 4, further comprising selectively adapting a length of the reaction plane.
- [c7] The method of claim 4, further comprising selectively adapting a thrust of the engine while the space vehicle is in flight.

- [c8] The method of claim 4, wherein the space plane includes a bell-shaped nozzle main thrust engine and further comprising firing the bell-shaped nozzle main thrust engine essentially simultaneously with the engines.
- [c9] The method of claim 4, wherein the space plane includes a bell-shaped nozzle main thrust engine, further comprising firing the bell-shaped nozzle main thrust engine once the space plane reaches outer space.